

What is claimed is:

1. An endoscope comprising:
an inserting tube to be inserted into a human body;
a first optical system secured in a tip end of said inserting tube for observing in vivo tissues within a human body at first magnification; and
a second optical system secured in the tip end of said inserting tube for observing the in vivo tissues at second magnification that is higher than the first magnification.
2. The endoscope according to claim 1, wherein a portion of said second optical system is within the field of view of said first optical system.
3. The endoscope according to claim 2, comprising a tip body mounted on a distal end of said inserting tube, said tip body holding said first optical system and said second optical systems.
4. The endoscope according to claim 1, wherein said first optical system and said second optical system are provided on an end surface of said tip body, said second optical system being arranged such that at least a front end portion thereof is protruded with respect to said first

optical system.

5. The endoscope according to claim 4, wherein said first optical system is arranged such that a front end portion thereof is substantially flush with respect to the end surface of said tip body.

6. The endoscope according to claim 5, wherein an optical axis of said first optical system and an optical axis of said second optical system are substantially parallel with each other.

7. The endoscope according to claim 5, wherein said second optical system is arranged not to interfere with a central area of the field of view of said first optical system.

8. The endoscope according to claim 4, wherein the end surface of said tip body is formed with a protruded cover member that covers the side surface of said second optical system.

9. The endoscope according to claim 8, wherein at least a part of said cover member is observable in the field of view of said first optical system.

10. The endoscope according to claim 9, wherein said tip body is arranged such that said at least a part of said cover member does not interfere with a central area of the field of view of said first optical system.

11. The endoscope according to claim 10, wherein said tip body is arranged such that said cover member of said tip body does not intersect a horizontal centerline and a vertical centerline of the field of view of said first optical system.

12. The endoscope according to claim 8, wherein said cover member of said tip body surrounds at least a part of a circumferential surface of the end portion of said second optical system.

13. The endoscope according to claim 12, wherein said tip body is made of hard resin.

14. The endoscope according to claim 12, wherein an outer surface of said cover member of said tip body is tapered.

15. The endoscope according to claim 4,
wherein said tip body is formed with an outlet of a

forceps channel for introducing a forceps into the human body, and

wherein said cover member of said tip body is formed not to interfere with the forceps protruded from said outlet.

16. The endoscope according to claim 1, wherein said second optical system is a confocal optical system.

17. The endoscope according to claim 16, further comprising:

an imaging device provided in said tip end of said flexible inserting tube, and

wherein said first optical system forms an image of a target on said imaging device.

18. The endoscope according to claim 16, further comprising an optical fiber that transmits light returned from the in vivo tissues, only the light from a level of a focal plane of said second optical system being transmitted through said optical fiber.

19. An endoscope comprising:

an inserting tube to be inserted into a human body;

a first optical system secured in a tip end of said

inserting tube for observing in vivo tissues within a human body at first magnification; and

a second optical system secured in the tip end of said inserting tube for observing the in vivo tissues at second magnification that is higher than the first magnification,

wherein a front end portion of said second optical system is protruded by a predetermined amount with respect to a front end portion of said first optical system.

20. An endoscope comprising:

an inserting tube to be inserted into a human body;

a first optical system secured in a tip end of said inserting tube for observing in vivo tissues within a human body at first magnification; and

a second optical system secured in the tip end of said inserting tube for observing the in vivo tissues at second magnification that is higher than the first magnification,

wherein said first optical system and said second optical system are arranged such that a front end portion of said second optical system is within a field of view of said first optical system.